

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

## **IMAGES ARE BEST AVAILABLE COPY.**

As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.

## AMENDMENT

### In the specification

On page 17, please amend the paragraph containing line 20, as follows:

B<sup>1</sup> Figure 37 depicts a nucleotide SEQ ID NO: 17 and amino acid sequence SEQ ID NO: 18 for ADP.

On page 77, please amend the paragraph containing lines 28 and 31, as follows:

B<sup>2</sup> In some embodiments, a melanocyte-specific TRE comprises sequences derived from the 5' flanking region of a human tyrosinase gene depicted in Table 14. In some of these embodiments, the melanocyte-specific TRE comprises tyrosinase nucleotides from about -231 to about +65 relative to the transcription start site (from about nucleotide 244 to about nucleotide 546 of SEQ ID NO:10) and may further comprise nucleotides from about -1956 to about -1716 relative to the human tyrosinase transcription start site (from about nucleotide 6 to about nucleotide -243 of SEQ ID NO:10). A tyrosinase TRE can comprise nucleotides from about -231 to about +65 juxtaposed to nucleotides from about -1956 to about -1716. It has been reported that nucleotides from about -1956 to about -1716 relative to the human tyrosinase transcription start site can confer melanocyte-specific expression of an operably linked reporter gene with either a homologous or a heterologous promoter. Accordingly, in some embodiments, a melanocyte-specific TRE comprises nucleotides from about -1956 to about -1716 operably linked to a heterologous promoter.

On page 86, please amend the paragraph containing lines 30 and 33, as follows:

B<sup>3</sup> IRES elements were first discovered in picornavirus mRNAs (Jackson RJ, Howell MT, Kaminski A (1990) *Trends Biochem Sci* 15(12):477-83) and Jackson RJ and Kaminski, A. (1995) *RNA* 1(10):985-1000). The present invention provides improved adenovirus vectors comprising co-transcribed first and second genes under transcriptional control of a heterologous, target cell-specific TRE, and wherein the second gene (i.e., coding region) is under translational control of an internal ribosome entry site (IRES). Any IRES may be used in the adenovirus vectors of the invention, as long as they exhibit requisite function in the vectors. Example of IRES which can be used in the present invention include those provided in Table I and referenced in Table II. Examples of IRES elements include the encephelomyocarditis virus (EMCV) which is commercially

3  
available from Novagen (Duke et al. (1992) *J. Virol* 66(3):1602-9) the sequence for which is depicted in Table 12 (SEQ ID NO:1). Another example of an IRES element disclosed herein is the VEGF IRES (Huez et al. (1998) *Mol Cell Biol* 18(11):6178-90). This IRES has a short segment and the sequence is depicted in Table 12 (SEQ ID NO:2).

✓  
On page 131, please amend Table 9, as follows:

**Table 9**

34

Primer	Sequence	Note
A.	5'-GACGTCGACTAATTCCGGTTATTTTCCA SEQ ID NO: 19	For PCR EMCV IRES, <i>GTCGAC</i> is a <i>Sa</i> II site.
B.	5'-GACGTCGACATCGTGTTTTTCAAAGGAA SEQ ID NO: 20	For PCR EMCV IRES, <i>GTCGAC</i> is a <i>Sa</i> II site.
C.	5'-CCTGAGACGCCCCGACATCACCTGTG SEQ ID NO: 21	Ad5 sequence to 1314 to 1338.
D.	5'- <u>GTCGACCATT</u> CAGCAAACAAAGGCGTTAAC SEQ ID NO: 22	Antisense of Ad5 sequence 1572 to 1586. <i>GTCGAC</i> is a <i>Sa</i> II site. Underline region overlaps with E.
E.	5'- <u>TGCTGAATGGT</u> CGACATGGAGGCTTGGGAG SEQ ID NO: 23	Ad5 sequence 1714 to 1728. <i>GTCGAC</i> is a <i>Sa</i> II site. Underline region overlaps with D.
F.	5'-CACAAACCGCTCTCCACAGATGCATG SEQ ID NO: 24	Antisense of Ad5 sequence 2070 to 2094.

✓  
On page 134, please amend the paragraph containing lines 22 and 23, as follows:

The 519 base pair EMCV IRES segment was PCR amplified from Novagen's pCITE vector by primers A/B:

5  
primer A: 5'-GACGTCGACTAATTCCGGTTATTTTCCA SEQ ID NO: 19

primer B 5'-GACGTCGACATCGTGTTTTTCAAAGGAA SEQ ID NO: 20 (*GTCGAC* is a *Sa*II site).

On page 135, please amend the paragraph containing lines 13 and 14, as follows:

**CP1088**

6  
The 2.2kb (-2225 to +1) human UPII was amplified from CP657 with primer 127.2.1 (5'-AGGACCGGTCACTATAGGGCACGCGTGGT-3'(SEQ ID NO: 25)) PLUS 127.2.2 (5'-AGGACCGGTGGGATGCTGGGCTGGGAGGTGG-3'(SEQ ID NO: 26)) and digested with PinAI and ligated with CP629 cut with PinAI.

On page 137, please amend Table 11, as follows:

TABLE 11

Name	Vector	Ad 5 Vector	E1A TRE	E1B TRE	E3
CV874	CP1086	pBHGE3	1.9 kb mUPII	IRES	intact
CV875	CP1087	pBHGE3	1.0 kb hUPII	IRES	intact
CV876	CP1088	pBHGE3	2.2 kb hUPII	IRES	intact
CV877	CP1089	pBHGE3	1.0 kb mUPII	1.0 kb hUPII (E1B promoter deleted)	intact
CV882	CP1129	pBHGE3	1.8 kb hUPII	IRES	intact
CV884	CP1131	pBHGE3	1.8 kb hUPII	IRES (E1B 19-kDa deleted)	intact

Viruses are tested and characterized as described above.

Primer sequences:

96.74.1 GACGTCGACATCGTGTTTTTCAAAGGAA SEQ ID NO: 20  
96.74.2 GACGTCGACTAATTCCGGTTATTTTCCA SEQ ID NO: 19  
96.74.3 CCTGAGACGCCCGACATCACCTGTG SEQ ID NO: 21  
96.74.4 TGCTGAATGGTCGACATGGAGGCTTGGGAG SEQ ID NO: 23  
96.74.5 CACAACCGCTCTCCACAGATGCATG SEQ ID NO: 24  
96.74.6 GTCGACCATTCAGCAAACAAAGGCGTTAAC SEQ ID NO: 22  
100.113.1 AGGGGTACCCACTATAGGGCACGCGTGGT SEQ ID NO: 27  
100.113.2 ACCCAAGCTTGGGATGCTGGGCTGGGAGGTGG SEQ ID NO: 28  
127.2.2 AGGACCGGTGGGATGCTGGGCTGGGAGGTGG SEQ ID NO: 26  
127.50.1 AGGACCGGTCAGGCTTACCCCAGACCCAC SEQ ID NO: 29  
31.166.1 TGCGCCGGTGTACACAGGAAGTGA SEQ ID NO: 30

32.32.1 GAGTTTGTGCCATCGGTCTAC SEQ ID NO: 31  
 32.32.2 AATCAATCCTTAGTCCTCCTG SEQ ID NO: 32  
 51.176 GCAGAAAAATCTTCCAAACACTCCC SEQ ID NO: 33  
 99.120.1 ACGTACACCGGTCGTTACATAACTTAC SEQ ID NO: 34  
 99.120.2 CTAGCAACCGGTCGGTTCCTAAACG SEQ ID NO: 35

On page 139, please amend the paragraph containing line 11, as follows:

A. ***Example 16: Construction of a Replication-Competent Adenovirus Vector with a CEA-TRE and a EMCV IRES***

Using a strategy similar to Example 1, the TRE fragment from Carcinembryonic antigen (CEA)(Table 14, SEQ ID NO:14) is used to construct virus designated CV873. A PinAI fragment containing the CEA-TRE was cloned into the PinAI site in front of E1A of CP627 for the transcriptional control. The resultant plasmid CP1080 is used together with pBHGE3 to generate CV873.

On page 167, please amend the paragraph containing line 3, as follows:

**1. Table 12: IRES Sequences**

**SEQ ID NO:1** A 519 base pair IRES obtainable from encephelomyocarditis virus (EMCV).

1 GACGTCGACTAATTCCGGTTATTTTCCACCATATTGCCGTCTTTTGGCAA  
 Sall  
 51 TGTGAGGGCCCGGAAACCTGGCCCTGTCTTCTTGACGAGCATTCCTAGGG  
 101 GTCTTTCCCCTCTCGCCAAAGGAATGCAAGGTCTGTTGAATGTCGTGAAG  
 151 GAAGGAGTTCTCTGGAAGCTTCTTGAAGACAAACAACGTCTGTAGCGAC  
 201 CCTTTGCAGGCAGCGGAACCCCCACCTGGCGACAGGTGCCTCTGCGGCC  
 251 AAAAGCCACGTGTATAAGATACACCTGCAAAGGCGGCACAACCCCAAGTGC  
 301 CACGTTGTGAGTTGGATAGTTGTGGAAAGAGTCAAATGGCTCTCCTCAAG  
 351 CGTATTCAACAAGGGGCTGAAGGATGCCAGAAGGTACCCCATTTGTATGG  
 401 GATCTGATCTGGGGCCTCGGTGCACATGCTTTACATGTGTTTAGTCGAGG

451 TTAAAAAACGTCTAGGCCCCCGAACCACGGGGACGTGGTTTTCTTTGA

SalI

501 AAAACACGATGTCGACGTC

On page 167, please amend the paragraph containing line 19, as follows:

**SEQ ID NO:2** An IRES obtainable from vascular endothelial growth factor

(VEGF).

1 ACGTAGTCGACAGCGCAGAGGCTTGGGGCAGCCGAGCGGCAGCCAGGCCC  
SalI  
51 CGGCCCCGGGCCTCGGTTCCAGAAGGGAGAGGAGCCCGCCAAGGCGCGCAA  
101 GAGAGCGGGCTGCCTCGCAGTCCGAGCCGGAGAGGGAGCGCGAGCCGCGC  
151 CGGCCCCGACGGCCTCCGAAACCATGGTCGACACGTA  
SalI

On page 167, please amend the paragraph containing line 28, as follows:

**SEQ ID NO:3** A 5'UTR region of HCV.

1 GCCAGCCCCCTGATGGGGGCGACACTCCGCCATGAATCACTCCCCTGTGAGGAAGTACTG  
61 TCTTCACGCAGAAAGCGTCTAGCCATGGCGTTAGTATGAGTGTCGTGCAGCCTCCAGGAC  
121 CCCCCCTCCCGGGAGAGCCATAGTGGTCTGCGGAACCGGTGAGTACACCGGAATTGCCAG  
181 GACGACCGGGTCTTTCTTGGATTAACCCGCTCAATGCCTGGAGATTGGGGCTGCCCCC  
241 GCAAGACTGCTAGCCGAGTAGTGTGGGTGCGGAAAGGCCTTGTGGTACTGCCTGATAGG  
301 GTGCTTGCGAGTGCCCCGGGAGGTCTCGTAGACCGTGCACC (341)

On page 168, please amend the paragraph containing line 1, as follows:

**SEQ ID NO:4** A 5'UTR region of BiP **SEQ ID NO:4**

1 CCCGGGGTCACTCCTGCTGGACCTACTCCGACCCCCTAGGCCGGGAGTGAAGGCGGGACT  
61 TGTGCGGTTACCAGCGGAAATGCCTCGGGGTGAGAAGTCGCAGGAGAGATAGACAGCTGC  
121 TGAACCAATGGGACCAGCGGATGGGGCGGATGTTATCTACCATTGGTGAACGTTAGAAAC  
181 GAATAGCAGCCAATGAATCAGCTGGGGGGGCGGAGCAGTGACGTTTATTGCGGAGGGGGC  
241 CGCTTCGAATCGGCGGCGGCCAGCTTGGTGGCCTGGGCCAATGAACGGCCTCCAACGAGC

B<sup>12</sup>

301 AGGGCCTTCACCAATCGGCGGCCTCCACGACGGGGCTGGGGGAGGGTATATAAGCCGAGT  
361 AGGCGACGGTGAGGTGACGCCGGCCAAGACAGCACAGACAGATTGACCTATTGGGGTGT  
421 TTCGCGAGTGTGAGAGGGAAGCGCCGCGGCCTGTATTTCTAGACCTGCCCTTCGCCTGGT  
481 TCGTGGCGCCTTGTGACCCCGGGCCCCCTGCCGCCTGCAAGTCGAAATTGCGCTGTGCTCC  
541 TGTGCTACGGCCTGTGGCTGGACTGCCTGCTGCTGCCCAACTGGCTGGCAAGATG (595)

On page 168, please amend the paragraph containing line 15, as follows:

**SEQ ID NO:5 A 5'UTR of PDGF SEQ ID NO:5**

B<sup>13</sup>

1 GTTTGCACCTCTCCCTGCCCGGGTGCTCGAGCTGCCGTTGCAAAGCCAACTTTGGAAAAA  
61 GTTTTTTGGGGGAGACTTGGGCCTTGAGGTGCCAGCTCCGCGCTTTCCGATTTTGGGGG  
121 CTTTCCAGAAAATGTTGCAAAAAAGCTAAGCCGGCGGGCAGAGGAAAACGCCTGTAGCCG  
181 GCGAGTGAAGACGAACCATCGACTGCCGTGTTCTTTTCTCTTGGAGGTTGGAGTCCCC  
241 TGGGCGCCCCCACACCCCTAGACGCCTCGGCTGGTTTCGCGACGCAGCCCCCGGCCGTGG  
301 ATGCTGCACTCGGGCTCGGGATCCGCCCAGGTAGCCGGCCTCGGACCCAGGTCCTGCGCC  
361 CAGGTCCTCCCCTGCCCCCAGCGACGGAGCCGGGGCCGGGGGCGGCGCGCCGGGGGCA  
421 TGCGGGTGAGCCGCGGCTGCAGAGGCCTGAGCGCCTGATCGCCGCGGACCTGAGCCGAGC  
481 CCACCCCCCTCCCCAGCCCCCACCCTGGCCGCGGGGGCGGCGCGCTCGATCTACGCGTC  
541 CGGGGCCCCGCGGGGCCGGGCCCGGAGTCGGCATG (575)

Beginning on page 169 and ending on page 172, please amend the paragraph containing lines 7 (page 169) and 1 (page 170), as follows:

**2. Table 14: TRE Sequences**

Nucleotide sequence of a human uroplakin II 5' flanking region. Position +1 (the translational start site) is denoted with an asterisk. SEQ ID NO:6 (number 1 of SEQ ID NO:6 corresponds to position -2239 with respect to the translational start site).

B<sup>14</sup>

TCGATAGGTA CCCACTATAG GGCACGCGTG GTCGACGGCC CGGGCTGGTC  
1 50

TGGCAACTTC AAGTGTGGGC CTTTCAGACC GGCATCATCA GTGTTACGGG

51 100

GAAGTCACTA 101	GGAATGCAGA	ATTGATTGAG	CACGGTGGCT	CACACCTGTA 150
ATCCCAACAC 151	TCTGGGAGGC	CAAGGCAGGT	GGATCACTTG	TGGTCAGGAG 200
TTTGAGACCA 201	GCCTGGCCAA	CATGGTGAAA	CCTCATCTCT	ACTAAAAATA 250
CAAAAATTAG 251	CTGGGAATGG	TGGCACATGC	CTATAATCCC	AGTTACTCAG 300
GAGGCTGAGG 301	CAGGAGAATC	ATTTGAACCT	GGGAGGCAGA	GGTTGCAGTG 350
AGCCGAGATC 351	ACGCCACTGC	ACTCCAGCCT	GGGTGACACA	GCGAGACTCT 400
GTCTCAAAAA 401	AAAAAAAATG	CAGAATTTCA	GGCTTCACCC	CAGACCCACT 450
GCATGACTGC 451	ATGAGAAGCT	GCATCTTAAC	AAGATCCCTG	GTAATTCATA 500
CGCATATTAA 501	ATTTGGAGAT	GCACTGGCGT	AAGACCCTCC	TACTCTCTGC 550
TTAGGCCCAT 551	GAGTTCTTCC	TTTACTGTCA	TTCTCCACTC	ACCCCAAACCT 600
TTGAGCCTAC 601	CCTTCCCACC	TTGGCGGTAA	GGACACAACC	TCCCTCACAT 650
TCCTACCAGG 651	ACCCTAAGCT	TCCCTGGGAC	TGAGGAAGAT	AGAATAGTTC 700
GTGGAGCAAA 701	CAGATATACA	GCAACAGTCT	CTGTACAGCT	CTCAGGCTTC 750
TGGAAGTTCT 751	ACAGCCTCTC	CCGACAAAGT	ATTCCACTTT	CCACAAGTAA 800
CTCTATGTGT 801	CTGAGTCTCA	GTTTCCACTT	TTCTCTCTCT	CTCTCTCTCT 850
CAACTTTCTG 851	AGACAGAGTT	TCACTTAGTC	GCCCAGGCTG	GAGTGCAGGG 900
GCACAATCTC 901	GGCTCACTGC	AACCTCCACC	TCCTGGGTTC	AAGTGTTTCT 950
CCTGTCTCAG	CCTCCCGAGT	AGCTGGGATT	ACAGGCACAC	ACCACCGCGT



951 1000

TAGTTTTTGT	ATTTTTGGTA	GAGATGGTGT	TTCGCCATAT	TGGCCAGGCT	1050
1001					
GATCTCGAAC	TCCTGACCTC	AGGTGATCCG	CCCACCTCGG	CCTCCCAAAG	1100
1051					
TGCTGGGATT	ACAGGCATGA	GCCACCACGC	CCGGCTGATC	TCTTTTCTAT	1150
1101					
TTTAATAGAG	ATCAAACCTCT	CTGTGTTGCC	TAGGCTGGTC	TTGAACTCCT	1200
1151					
GGCCTCGAGT	GATCCTCCCA	CCTTGGCCTC	CCAAAGTGTT	GAGATTACAG	1250
1201					
GCATGAGCCA	CTGTGCCTGG	CCTCAGTTCT	ACTACAAAAG	GAAGCCAGTA	1300
1251					
CCAGCTACCA	CCCAGGGTGG	CTGTAGGGCT	ACAATGGAGC	ACACAGAACC	1350
1301					
CCTACCCAGG	GCCCCGAAGA	AGCCCCGACT	CCTCTCCCCCT	CCCTCTGCCC	1400
1351					
AGAACTCCTC	CGCTTCTTTC	TGATGTAGCC	CAGGGCCGGA	GGAGGCAGTC	1450
1401					
AGGGAAGTTC	TGTCTCTTTT	TCATGTTATC	TTACGAGGTC	TCTTTTCTCC	1500
1451					
ATTCTCAGTC	CAACAAATGG	TTGCTGCCCA	AGGCTGACTG	TGCCCACCCC	1550
1501					
CAACCCCTGC	TGGCCAGGGT	CAATGTCTGT	CTCTCTGGTC	TCTCCAGAAG	1600
1551					
TCTTCCATGG	CCACCTTCGT	CCCCACCCTC	CAGAGGAATC	TGAAACCGCA	1650
1601					
TGTGCTCCCT	GGCCCCCACA	GCCCCTGCCT	CTCCCAGAGC	AGCAGTACCT	1700
1651					
AAGCCTCAGT	GCACTCCAAG	AATTGAAACC	CTCAGTCTGC	TGCCCCTCCC	1750
1701					
CACCAGAATG	TTTCTCTCCC	ATTCTTACCC	ACTCAAGGCC	CTTTCAGTAG	1800
1751					
CCCCTTGGAG	TATTCTCTTC	CTACATATCA	GGGCAACTTC	CAAACTCATC	1850
1801					
ACCCTTCTGA	GGGGTGGGGG	AAAGACCCCC	ACCACATCGG	GGGAGCAGTC	

1851 1900

CTCCAAGGAC TGGCCAGTCT CCAGATGCCC GTGCACACAG GAACACTGCC  
1901 1950

TTATGCACGG GAGTCCCAGA AGAAGGGGTG ATTTCTTTCC CCACCTTAGT  
1951 2000

TACACCATCA AGACCCAGCC AGGGCATCCC CCCTCCTGGC CTGAGGGCCA  
2001 2050

GCTCCCCATC CTGAAAAACC TGTCTGCTCT CCCACCCCT TTGAGGCTAT  
2051 2100

AGGGCCCAAG GGGCAGGTTG GACTGGATTC CCCTCCAGCC CCTCCCGCCC  
2101 2150

CCAGGACAAA ATCAGCCACC CCAGGGGCAG GGCCTCACTT GCCTCAGGAA  
2151 2200

CCCCAGCCTG CCAGCACCTA TTCCACCTCC CAGCCCAGCA  
2201 2239

Beginning on page 172 and ending on page 177, please amend the paragraph containing lines 33 and 34 (page 172), as follows:

Nucleotide sequence of a mouse uroplakin II 5' flanking region. The translational start site is denoted with an asterisk. SEQ ID NO:7 (number 1 of SEQ ID NO:7 corresponds to position - 3592 with respect to the translational start site).

CTCGAGGATCTCGGCCCTCTTTCTGCATCCTTGTCCTAAATCATTTTCAT  
1 50

ATCTTGCTAGACCTCAGTTTGAGAGAAACGAACCTTCTCATTTTCAAGTT  
51 100

GAAAAAAAAAAGAGGTTCAAAGTGGCTCACTCAAAGTTACAAGCCAACAC  
101 150

TCACCACTACGAGTACAATGGCCACCATTAGTGCTGGCATGCCCCAGGAG  
151 200

ACAGGCATGCATATTATTCTAGATGACTGGGAGGCAGAGGGGTGGCCTAG  
201 250

TGAGGTCAGACTGTGGACAGATCAGGCAGATGTGGGTTCTGATCCCAATT  
251 300

CCTCAGGCCGCAGAACTACTGTGGTTCAAGAAGGGGACAAAAGGACTGCA  
301 350

GTCCGGAACAGGAGGTCCATTTGAGAGCTGACTGAGCAGAAGAGGAAAGT  
351 400

GAAGAACTTCTGGGGCAAGAGCTTACCCTACTTTACAGCTTTGTTGTCTT  
401 450

CTTTACTCCAGGGGCGTCCCTGGTACTCAGTAAATGTCTGTTGGCTTGAG  
451 500

GAACATATGTGTAAGGAGGAAGGAGAGGGAACTTGAGGGAGTTAAGACTC  
501 550

AGAATCAATCAAGGAGAGGACAGCAGAGAAGACAGGGTTTGGGAGAGAG  
551 600

ACTCCAGACATTGGCCCTGGTTCCCTTCTTGGCCACTGTGAAACCCTCCA  
601 650  
GAGGAACTGAGTGCTGTGGCTTTAAATGATCTCAGCACTGTCAGTGAAGC  
651 700

GCTCTGCTCAAAGAGTTATCCTCTTGCTCCTGTGCCGGGGCCTCCCCCTC  
701 750

CTCTCAGCTCCCAAACCCTTCTCAGCCACTGTGATGGCATAATTAGATGC  
751 800

GAGAGCTCAGACCGTCAGGTCTGCTCCAGGAACCACCCATTTTCCCCAAC  
801 850

CCCAGAGAAAGGTCCTAGTGGAAGAGTGGGGGCCACTGAAGGGCTGATGG  
851 900

GGTTCTGTCCTTTCCCCCATGCTGGGTGGACTTAAAGTCTGCGATGTGTG  
900 950

TAGGGGGTAGAAGACAACAGAACCTGGGGGCTCCGGCTGGGAGCAGGAGG  
951 1000

AACTCTCACCAGACGATCTCCAAATTTACTGTGCAATGGACGATCAGGAA  
1001 1050

ACTGGTTCAGATGTAGCTTCTGATACAGTGGGTCTGAGGTAAAACCCGAA  
1051 1100

ACTTAATTTCTTTCAAAAATTTAAAGTTGCATTTATTATTTTATATGTGT  
1101 1150

GCCCATATGTGTGCCACAGTGTCTATGTGGAGGTCAGAGGGCAAGTTGTG  
1151 1200

GGCATTGGCTCTCTCCTTTCATAATGTGGCTTCTGGGGACCAAATGTCA

1201 1250  
 GGCATGGTGGCAAGAGCTTTTACCTGTTGAGCCATCTCATGGTTTCGTAA  
 1251 1300  
 AACTTCCTATGACGCTTACAGGTAACGCAGAGACACAGACTCACATTTGG  
 1301 1350  
 AGTTAGCAGATGCTGTATTGGTGTAACACTCATAACAGACACACACAC  
 1351 1400  
 ATACTCATAACACACACACACACTTATCACATGCACACACATACTCGTA  
 1401 1450  
 TACACACAGACACACACACATGCACTCTCACATTCACATATTCATACACA  
 1451 1500  
 TCCACACACACACTCATCCACACACACAGACACACATACTCATCCACACA  
 1501 1550  
 CACACACACACATACTCATAACACACACAGACACACATACTCATAACACA  
 1551 1600  
 CACACAGACACACACATATAATCATAACACAGACACACTCATAACATG  
 1601 1650  
 TGCACACACACACTCATCCACACACACACACTCATAACACACACACTCA  
 1651 1700  
 TACACACACACACTCATAACACACACACAGAGGTTTTTCTCAGGCTGCCT  
 1701 1750  
 TTGGGTGGAGACTGGAAGTATTTCTGTTTTTCAGCTCCTTGGCTTTTTG  
 1751 1800  
 TCCCTTTAGATGAGATCTCCTCCTCACTTTACACACAGAAAGATCACACA  
 1801 1850  
 CGAGGGAGAACTGGCGGTGCGGAAGAGGGCTACACGGTAGGGTGTGAGG  
 1851 1900  
 TCAGGAGATCTTCCTGGCAAGTCTCAAACCTCCACATAGCACAGTGTTTA  
 1901 1950  
 CGTGAGGATTTAGGAGGAATCAGGAAGAGGATTGGTTTACTGCAGAGCAG  
 1951 2000  
 ACCATATAGGTCCACTCCTAAGCCCCATTTGAAATTAGAAGTGAGACAGT  
 2001 2050  
 GTGGGATAAAAAGAGCAGATCTCTGGTCACATTTTTAAAGGGATATGAGG  
 2051 3000  
 GTCCTGTGCCTTTAAGCCTTCCCATCTCCCTCCAATCCCCCTCACCTTC

2101 2150  
 CCCACCCTAACCCCTCCCCAGGTTTCTGGAGGAGCAGAGTTGCGTCTTCTC  
 2151 2200  
 CCTGCCCTGCCGAGCTGCTCACTGGCTGCTCTAGAGGCTGTGCTTTGCGG  
 2201 2250  
 TCTCCATGGAAACCATTAGTTGCTAAGCAACTGGAGCATCATCTGTGCTG  
 2251 2300  
 AGCTCAGGTCCTATCGAGTTCACCTAGCTGAGACACCCACGCCCCTGCAG  
 2301 2350  
 CCACTTTGCAGTGACAAGCCTGAGTCTCAGGTTCTGCATCTATAAAAACG  
 2351 2400  
 AGTAGCCTTTTCAGGAGGGCATGCAGAGCCCCCTGGCCAGCGTCTAGAGGA  
 2401 2450  
 GAGGTGACTGAGTGGGGCCATGTCACCTCGTCCATGGCTGGAGAACCTCCA  
 2451 2500  
 TCAGTCTCCCAGTTAGCCTGGGGCAGGAGAGAACCAGAGGAGCTGTGGCT  
 2501 2550  
 GCTGATTGGATGATTTACGTACCCAATCTGTTGTCCCAGGCATCGAACCC  
 2551 2600  
 CAGAGCGACCTGCACACATGCCACCGCTGCCCCGCCCTCCACCTCCTCTG  
 2601 2650  
 CTCCTGGTTACAGGATTGTTTTGTCTTGAAGGGTTTTGTTGTTGCTACTT  
 2651 2700  
 TTTGCTTTGTTTTTTCTTTTTTAACATAAGGTTTCTCTGTGTAGCCCTAG  
 2701 2750  
 CTGTCCTGGAACCTCACTCTGTAGACCAGGCTGGCCTCAAACCTCAGAAATC  
 2751 2800  
 CACCTTCCTCCCAAGTGCTGGGATTAAAGGCATTCGCACCATCGCCCAGC  
 2801 2850  
 CCCCAGTCTTGTTTCCTAAGGTTTTCTGCTTTACTCGCTACCCGTTGCA  
 2851 2900  
 CAACCGCTTGCTGTCCAAGTCTGTTTGTATCTACTCCACCGCCCACTAGC  
 2901 2950  
 CTTGCTGGACTGGACCTACGTTTACCTGGAAGCCTTCACTAACTTCCCTT  
 2951 3000  
 GTCTCCACCTTCTGGAGAAATCTGAAGGCTCACACTGATACCCCTCCGCTT

3001 3050  
 CTCCCAGAGTCGCAGTTTCTTAGGCCTCAGTTAAATACCAGAATTGGATC  
 3051 3100  
 TCAGGCTCTGCTATCCCCACCCTACCTAACCAACCCCCTCCTCTCCCATC  
 3101 3150  
 CTTACTAGCCAAAGCCCTTTCAACCCTTGGGGCTTTTCCTACACCTACAC  
 3151 3200  
 ACCAGGGCAATTTTAGAACTCATGGCTCTCCTAGAAAACGCCTACCTCCT  
 3201 3250  
 TGGAGACTGACCCTCTACAGTCCAGGAGGCAGACACTCAGACAGAGGAAC  
 3251 3300  
 TCTGTCCTTCAGTCGCGGGAGTTCCAGAAAGAGCCATACTCCCCTGCAGA  
 3301 3350  
 GCTAACTAAGCTGCCAGGACCCAGCCAGAGCATCCCCCTTTAGCCGAGGG  
 3351 3400  
 CCAGCTCCCCAGAATGAAAAACCTGTCTGGGGCCCCCTCCCTGAGGCTACA  
 3401 3450  
 GTCGCCAAGGGGCAAGTTGGACTGGATTCCCAGCAGCCCCCTCCCACTCCG  
 3451 3500  
 AGACAAAATCAGCTACCCTGGGGCAGGCCTCATTGGCCCCAGGAAACCCC  
 3501 3550  
 AGCCTGTCAGCACCTGTTCCAGGATCCAGTCCCAGCGCAGTA  
 3551

3592

On page 177, please amend the paragraph containing line 1, as follows:

AFP-TRE. SEQ ID NO:8.  
 1 GCATTGCTGTGAACTCTGTACTTAGGACTAACTTTGAGCAATAACACACATAGATTGAG  
 61 GATTGTTTGCTGTTAGCATACAACTCTGGTTCAAAGCTCCTCTTTATTGCTTGTCTTGG  
 121 AAAATTTGCTGTTCTTCATGGTTTCTCTTTTCACTGCTATCTATTTTTCTCAACCACTCA  
 181 CATGGCTACAATAACTGTCTGCAAGCTTATGATTCCCAAATATCTATCTCTAGCCTCAAT  
 241 CTTGTTCCAGAAGATAAAAAGTAGTATTCAAATGCACATCAACGTCTCCACTTGGAGGGC  
 301 TTAAAGACGTTTCAACATACAAACCGGGGAGTTTTGCCTGGAATGTTTCCTAAAATGTGT  
 361 CCTGTAGCACATAGGGTCTCTTGTTCCTTAAAATCTAATTACTTTTAGCCCAGTGCTCA

421 TCCCACCTATGGGGAGATGAGAGTGAAAAGGGAGCCTGATTAATAATTACACTAAGTCAA  
481 TAGGCATAGAGCCAGGACTGTTTGGGTAACTGGTCACCTTTATCTTAACTAAATATATC  
541 CAAAACTGAACATGTACTTAGTTACTAAGTCTTTGACTTTATCTCATTTCATACCACTCAG  
601 CTTTATCCAGGCCACTTATGAGCTCTGTGTCCTTGAACATAAAATACAAATAACCGCTAT  
661 GCTGTTAATTATTGGCAAATGTCCCATTTTCAACCTAAGGAAATACCATAAAGTAACAGA  
721 TATACCAACAAAAGGTTACTAGTTAACAGGCATTGCCTGAAAAGAGTATAAAAGAATTTTC  
781 AGCATGATTTTCCATATTGTGCTTCCACCACTGCCAATAACA (822)

Beginning on page 177 and ending on page 178, please amend the paragraph containing line 40  
(page 177), as follows:

Probasin -TRE SEQ ID NO:9

-426

5' -AAGCTTCCACAAGTGCATTTAGCCTCTCCAGTATTGCTGATGAATCCACAGT

TCAGGTTCAATGGCGTTCAAACTTGATCAAAAATGACCAGACTTTATATTTA

CACCAACATCTATCTGATTGGAGGAATGGATAATAGTCATCATGTTTAAACAT

CTACCATTCCAGTTAAGAAAATATGATAGCATCTTGTTCTTAGTCTTTTTCTTA

ARE - 1

ATAGGGACATAAAGCCCACAAATAAAAATATGCCTGAAGAATGGGACAGGC

ATTGGGCATTGTCCATGCCTAGTAAAGTACTCCAAGAACCTATTTGTATACTA

ARE - 2

GATGACACAATGTCAATGTCTGTGTACAACCTGCCAACTGGGATGCAAGACAC

TGCCCATGCCAATCATCCTGAAAAGCAGCTATATAAAAGCAGGAAGCTACTCT

CAAT box

TATAA box

+1

+28

GCACCTTGTTCAGTAGGTCCAGATACCTACAG-3'

Transcription site

On page 178, please amend the paragraph containing line 6, as follows:

Tyrosinase-TRE SEQ ID NO:10

PinAl end

1 CCGGTTGAAAATGATAAGTTGAATTCTGTCTTCGAGAACATAGAAAAGAA

51 TTATGAAATGCCAACATGTGGTTACAAGTAATGCAGACCCAAGGCTCCCC  
 101 AGGGACAAGAAGTCTTGTGTAACTCTTTGTGGCTCTGAAAGAAAGAGAG  
 151 AGAGAAAAGATTAAGCCTCCTTGTGGAGATCATGTGATGACTTCCTGATT  
 201 CCAGCCAGAGCGAGCATTTCATGGAACTTCTCTTCCTCTTCACTCGAG  
 251 ATTACTAACCTTATTGTTAATATTCTAACCATAAGAATTAACTATTAAT  
 301 GGTGAATAGAGTTTTTCACTTTAACATAGGCCTATCCCACTGGTGGGATA  
 351 CGAGCCAATTTCGAAAGAAAAAGTCAGTCATGTGCTTTTCAGAGGATGAAA  
 401 GCTTAAGATAAAGACTAAAAGTGTTTGATGCTGGAGGTGGGAGTGGTATT  
 451 ATATAGGTCTCAGCCAAGACATGTGATAATCACTGTAGTAGTAGCTGGAA  
 501 AGAGAAATCTGTGACTCCAATTAGCCAGTTCCTGCAGACCTTGTGA

PinAl end

Beginning on page 178 and ending on page 188, please amend the paragraph containing line 20  
 (page 178), as follows:

Human glandular kallikrein-TRE SEQ ID NO:11

gaattcagaa ataggggaag gttgaggaag gacactgaac tcaaagggga tacagtgatt 60  
 ggtttatttg tcttctcttc acaacattgg tgctggagga attcccaccc tgaggttatg 120  
 aagatgtctg aacacccaac acatagcact ggagatatga gctcgacaag agtttctcag 180  
 ccacagagat tcacagccta gggcaggagg aactgtacg ccaggcagaa tgacatggga 240  
 attgcgctca cgattggctt gaagaagcaa ggactgtggg aggtgggctt ttagtaaca 300  
 agagggcagg gtgaactctg attcccatgg gggaatgtga tggtcctgtt acaaattttt 360  
 caagctggca gggaataaaa cccattacgg tgaggacctg tggagggcgg ctgccccaac 420  
 tgataaagga aatagccagg tgggggcctt tcccattgta ggggggacat atctggcaat 480  
 agaagccttt gagacccttt aggggtacaag tactgaggca gcaaataaaa tgaaatctta 540  
 tttttcaact ttatactgca tgggtgtgaa gatatatgtg tttctgtaca gggggtgagg 600  
 gaaaggaggg gaggaggaaa gttcctgcag gtctggtttg gtcttgtgat ccaggggggtc 660  
 ttggaactat ttaaattaaa ttaaattaaa acaagcgact gttttaaatt aaattaaatt 720  
 aaattaaatt ttactttatt ttatcttaag ttctgggcta catgtgcagg acgtgcagct 780



ttgttacata ggtaaactg tgccatggtg gtttgcgtga cctatcaacc catcacctag 840  
 gtattaagcc cagcatgcat tagctgtttt tcttgacgct ctccctctcc ctgactccca 900  
 caacaggccc cagtgtgtgt tgttcccctc cctgtgtcca tgtgttctca ttgttcagct 960  
 cccacttata agtgagaaca tgtggtgttt ggttttctgt ttctgtgtta gtttgcgtgag 1020  
 gataatggct tccacctcca tccatgttcc tgcaaaggac gtgatcttat tcttttttat 1080  
 ggttgcatag aaattgtttt tacaaatcca attgatattg tatttaatta caagttaatc 1140  
 taattagcat actagaagag attacagaag atattaggta cattgaatga ggaaatatat 1200  
 aaaataggac gaaggtgaaa tattaggtag gaaaagtata atagttgaaa gaagtaaaaa 1260  
 aaaatatgca tgagtagcag aatgtaaaag aggtgaagaa cgtaatagtg actttttaga 1320  
 ccagattgaa ggacagagac agaaaaatth taaggaattg ctaaaccatg tgagtgttag 1380  
 aagtacagtc aataacatta aagcctcagg aggagaaaag aataggaaag gaggaaatat 1440  
 gtgaataaat agtagagaca tgtttgatgg attttaaaat atttgaaaga cctcacatca 1500  
 aaggattcat accgtgccat tgaagaggaa gatggaaaag ccaagaagcc agatgaaagt 1560  
 tagaaatatt attggcaaag cttaaattgt aaaagtccta gagagaaaagg atggcagaaa 1620  
 tattggcggg aaagaatgca gaacctagaa tataaattca tccaacagt ttggtagtgt 1680  
 gcagctgtag ctttttctag ataatacact attgtcatac atcgcttaag cgagtgtaaa 1740  
 atggtctcct cactttatth atttatatat ttatttagtt ttgagatgga gcctcgctct 1800  
 gtctcctagg ctggagtgca atagtgcgat accactcact gcaacctctg cctcctctgt 1860  
 tcaagtgatt ttcttacctc agcctcccga gtagctggga ttacaggtgc gtgccaccac 1920  
 acccgctaa tttttgtatt tttttagag acggggtttt gccatgttgg ccaggctggt 1980  
 cttgaactcc tgacatcagg tgatccacct gccttggcct cctaaagtgc tgggattaca 2040  
 ggcatagacc accgtgccc accactttat ttatttttta tttttatth taaatttcag 2100  
 cttctatthg aaatacaggg ggcacatata taggattgtt acatgggtat attgaactca 2160  
 ggtagtgatc atactacca acaggtaggt tttcaacca ctccccctct tttcctcccc 2220  
 attctagtag tgtgcagtgt ctattgttct catgtttatg tctatgtgtg ctccaggttt 2280  
 agtcccacc tgtaagtgag aacgtgtggt atttgattth ctgtccctgt gtttaattcac 2340  
 ttaggattat ggcttcagc tccattcata ttgctgtaaa ggatatgatt cttttttcat 2400  
 ggccatgcag tattccatat tgcgtataga tcacattthc tttcttttht ttttttgaga 2460

eggagtcttg ctttgcgtgcc taggctggag tgcagtagca cgatctcggc tcaactgcaag 2520  
 cttcacctcc ggggttcacg tcattcttct gtctcagctt cccaagtagc tgggactaca 2580  
 ggcgcccgc accacgtccg gctaattttt ttgtgtgttt ttagtagaga tgggggtttc 2640  
 actgtgttag ccaggatggt cttgatctcc tgacctgtg gtccacctgc ctcggtctcc 2700  
 caaagtgcgt ggattacagg ggtgagccac tgcgcccggc ccatatatac cacattttct 2760  
 ttaaccaatc caccattgat gggcaactag gtagattcca tggattccac agttttgcta 2820  
 ttgtgtgcag tgtggcagta gacatatgaa tgaatgtgtc tttttggtat aatgatttgc 2880  
 attccttttg gtatacagtc attaatagga gtgctgggtt gaacggtggc tctgtttaaa 2940  
 attcctttgag aattttccaa actgtttgcc atagagagca aactaattta catttccacg 3000  
 aacagtatat aagcattccc ttttctccac agctttgtca tcatggtttt ttttttctt 3060  
 tattttaaaa aagaatatgt tggtgttttc ccagggtaca tgtgcaggat gtgcagggtt 3120  
 gttacatagg tagtaaactg gagccatggt gggttgctgc acctgtcaac ccattacctg 3180  
 ggtatgaagc cctgcctgca ttagctcttt tccctaagtc tctcactact gccccaccct 3240  
 caccctgaca gggcaaacag acaacctaca gaatgggagg aaatttttgc aatctattca 3300  
 tctgacaaag gtcaagaata tccagaatct acaaggaact taagcaaatt tttacttttt 3360  
 aataatagcc actctgactg gcgtgaaatg gtatctcatt gtgggttttca tttgaatttc 3420  
 tctgatgac agtgacgatg agcatttttt catatttggt ggctgcttgt acgtcttttg 3480  
 agaagtgtct cttcatgcct tttggccact ttaatgggat tattttttgc tttttagttt 3540  
 aagttcctta tagattctgg atattagact tcttattgga tgcatagttt gtgaatactc 3600  
 tcttccattc tgtaggttgt ctgtttactc tattgatggc ttcttttgct gtgccgaagc 3660  
 atcttagttt aattagaaac cacctgccaa tttttgtttt tgttgcaatt gcttttgggg 3720  
 acttagtcat aaactctttg ccaaggctcg ggtcaagaag agtatttcct aggttttctt 3780  
 ctagaatttt gaaagtctga atgtaaacad ttgcattttt aatgcatctt gagttagttt 3840  
 ttgtatatgt gaaaggctca ctctcatttt ctttccctct ttctttcttt ctttcttttc 3900  
 tttctttctt tctttctttc tttctttctt tctttctttc tttctttttg tcttcttttc 3960  
 tttctttctt tctctttctt tctctttctt tttttttttt ttgatggagt attgctctgt 4020  
 tgcccaggct gcagtgcagc ggcacgatct cggctcactg caacctctgc ctcctggggt 4080  
 caactgattc tctgcatca gccttccaag tagctgggat tataggcgcc cgccaccacg 4140  
 cccgactaat ttttgtattt ttagtagaga cgggggtgtg ccatgttggc caggctgggt 4200

tgaaactcct gacctcaaac gatctgcctg ccttggcctc ccaaagtgt gggattacag 4260  
 gtgtgagcca ctgtgccag ccaagaatgt cattttctaa gaggtccaag aacctcaaga 4320  
 tattttggga ccttgagaag agaggaattc atacaggtat tacaagcaca gcctaattggc 4380  
 aaatctttgg catggcttgg cttcaagact ttaggctctt aaaagtcgaa tccaaaaatt 4440  
 ttataaaaag ctccagctaa gctaccttaa aaggggcctg tatggctgat cactcttctt 4500  
 gctatacttt acacaaataa acaggccaaa tataatgagg ccaaaattta ttttgcaaat 4560  
 aaattgggtcc tgctatgatt tactcttggg aagaacaggg aaaatagaga aaaatttaga 4620  
 ttgcatctga cctttttttc tgaattttta tatgtgccta caatttgagc taaatcctga 4680  
 attattttct gggtgcaaaa actctctaaa gaagaacttg gttttcattg tcttcgtgac 4740  
 acatttatct ggctctttac tagaacagct ttcttgtttt tgggtgttcta gcttgtgtgc 4800  
 cttacagtcc tactcttcaa attattgtta tgtgtatctc atagttttcc ttcttttgag 4860  
 aaaactgaag ccatggtatt ctgaggacta gagatgactc aacagagctg gtgaatctcc 4920  
 tcatatgcaa tccactgggc tcgatctgct tcaaattgct gatgcactgc tgctaaagct 4980  
 atacatttaa aaccctcact aaaggatcag ggaccatcat ggaagaggag gaaacatgaa 5040  
 attgtaagag ccagattcgg ggggtagagt gtggaggtca gagcaactcc acctgaata 5100  
 agaaggtaaa gcaacctatc ctgaaagcta acctgccatg gtggcttctg attaacctct 5160  
 gttctaggaa gactgacagt ttgggtctgt gtcattgccc aaatctcatg ttaaattgta 5220  
 atccccagtg ttcggaggtg ggacttggtg gtaggtgatt cggatcatggg agtagatttt 5280  
 cttctttgtg gtgttacagt gatagtgagt gagttctcgt gagatctggg catttaaaag 5340  
 tgtgtggccc ctccccctcc tctcttggtc ctctactgc catgtaagat acctgctcct 5400  
 gctttgcctt ctaccataag taaaagcccc ctgaggcctc cccagaagca gatgccacca 5460  
 tgcttctgt acagcctgca gaaccatcag ccaattaaac ctcttttctg tataaattac 5520  
 cagtcttgag tatctcttta cagcagtgtg agaacggact aatacaaggg tctccaaaat 5580  
 tccaagttta tgtattcttt cttgccaaat agcaggtatt taccataaat cctgtcctta 5640  
 ggtcaaacia ccttgatggc atcgtacttc aattgtctta cacattcctt ctgaatgact 5700  
 cctcccctat ggcatataag ccctgggtct tgggggataa tggcagaggg gtccaccatc 5760  
 ttgtctggct gccacctgag acacggacat ggcttctgtt ggtaagtctc tattaaatgt 5820  
 ttctttctaa gaaactggat ttgtcagctt gtttctttgg cctctcagct tctcagact 5880

ttggggtagg ttgcacaacc ctgcccacca cgaaacaaat gtttaatatg ataaatatgg 5940  
 atagatatataa tccacataaa taaaagctct tggagggccc tcaataattg ttaagagtgt 6000  
 aaatgtgtcc aaagatggaa aatgtttgag aactactgtc ccagagattt tcctgagttc 6060  
 tagagtgtgg gaatatagaa cctggagctt ggcttcttca gcctagaatc aggagtatgg 6120  
 ggctgaagtc tgaagcttgg cttcagcagt ttgggggtgg cttccggagc acatatttga 6180  
 catgttgcca ctgtgatttg gggtttggtt tttgctctga atcctaattg ctgtccttga 6240  
 ggcattctaga atctgaaatc tgtgggtcaga attctattat cttgagtagg acatctccag 6300  
 tcctggttct gccttctagg gctggagtct gtagtcagt acccggtctg gcatttcaac 6360  
 ttcatataca gtgggctatc ttttgggtcca tgtttcaacc aaacaaccga ataaaccatt 6420  
 agaacctttc ccacttccc tagctgcaat gttaaacctt ggatttctgt ttaataggtt 6480  
 catatgaata atttcagcct gatccaactt tacattcctt ctaccgttat tctacacca 6540  
 ccttaaaaat gcattcccaa tatattccct ggattctacc tatatatggg aatcctgggt 6600  
 ttgccagttt ctagtgcatt aacatacctg atttacattc ttttacttta aagtggaaat 6660  
 aagagtcctt ctgcagagtt caggagttct caagatggcc cttacttctg acatcaattg 6720  
 agatttcaag ggagtcgcca agatcatcct cagggttcagt gattgctggg agccctcata 6780  
 taactcaatg aaagctgtta tgctcatggc tatggtttat tacagcaaaa gaatagagat 6840  
 gaaaatctag caaggaaga gttgcatggg gcaaagacaa ggagagctcc aagtgcagag 6900  
 attcctgttg ttttctcca gtgggtgcat ggaaagcagt atcttctcca tacaatgatg 6960  
 tgtgataata ttcagtgtat tgccaatcag ggaactcaac tgagccttga ttatattgga 7020  
 gcttggttgc acagacatgt cgaccacctt catgggtgaa ctttagtact tagccctcc 7080  
 agacgtctac agctgatagg ctgtaacca acattgtcac cataaatcac attgttagac 7140  
 tatccagtgt ggcccaagct cccgtgtaaa cacaggcact ctaaacaggc aggatatttc 7200  
 aaaagcttag agatgacctc ccaggagctg aatgcaaaga cctggcctct ttgggcaagg 7260  
 agaatccttt accgcacact ctcttcaca gggttattgt gaggatcaaa tgtgggtcatg 7320  
 tgtgtgagac accagcacat gtctggctgt ggagagtgtt ttctatgtgt gctaacattg 7380  
 ctgagtgtga agaaagtatt aggcattggc ttcagcactc acagatgtct atctaattcct 7440  
 cacaacatgg ctacaggtg ggcactacta gcctcatttg acagaggaaa ggactgtgga 7500  
 taagaagggg gtgaccaata ggtcagagtc attctggatg caaggggctc cagaggacca 7560  
 tgattagaca ttgtctgcag agaaattatg gctggatgtc tctgccccgg aaagggggat 7620

gcactttcct tgaccccccta tctcagatct tgactttgag gttatctcag acttcctcta 7680  
 tgataccagg agcccatcat aatctctctg tgcctctccc ccttcctcag tcttactgcc 7740  
 cactcttccc agctccatct ccagctggcc aggtgtagcc acagtaccta actctttgca 7800  
 gagaactata aatgtgtatc ctacagggga gaaaaaaaaa aagaactctg aaagagctga 7860  
 cattttaccg acttgcaaac acataagcta acctgccagt tttgtgctgg tagaactcat 7920  
 gagactcctg ggtcagaggc aaaagatttt attaccaca gctaaggagg cagcatgaac 7980  
 tttgtgttca catttggtca ctttgcccc caattcatat gggatgatca gagcagttca 8040  
 ggtggatgga cacaggggtt tgtggcaaag gtgagcaacc taggcttaga aatcctcaat 8100  
 cttataagaa ggtactagca aacttgtcca gtctttgtat ctgacggaga tattatcttt 8160  
 ataattgggt tgaaagcaga cctactctgg aggaacatat tgtatttatt gtcctgaaca 8220  
 gtaaacaat ctgctgtaaa atagacgtta actttattat ctaaggcagt aagcaaact 8280  
 agatctgaag gcgataccat cttgcaaggc tatctgctgt acaaataatgc ttgaaaagat 8340  
 ggtccagaaa agaaaacggt attattgcct ttgctcagaa gacacacaga aacataagag 8400  
 aaccatggaa aattgtctcc caacactggt caccagagc cttccactct tgtctgcagg 8460  
 acagtcttaa catcccatca ttagtgtgtc taccacatct ggcttcaccg tgccctaacca 8520  
 agatttctag gtccagttcc ccaccatggt tggcagtgcc ccactgccaa cccagaata 8580  
 agggagtgtc cagaattccg aggggacatg ggtggggatc agaacttctg ggcttgagtg 8640  
 cagagggggc ccatactcct tggttccgaa ggaggaagag gctggagggtg aatgtccttg 8700  
 gaggggagga atgtgggttc tgaactctta aatccccaag ggaggagact ggtaagggtcc 8760  
 cagcttccga ggtactgacg tgggaatggc ctgagagggtc taagaatccc gtatcctcgg 8820  
 gaaggagggg ctgaaattgt gaggggttga gttgcagggg tttgttagct tgagactcct 8880  
 tgggtgggtcc ctgggaagca aggactggaa ccattgggtc caggggttgg tgtgaaggta 8940  
 atgggatctc ctgattctca aagggtcaga ggactgagag ttgcccatgc tttgatcttt 9000  
 ccatctactc cttactccac ttgagggtaa tcactactc ttctagttcc acaagagtgc 9060  
 gcctgcgcga gtataatctg cacatgtgcc atgtcccgag gcctggggca tcatccactc 9120  
 atcattcagc atctgcgcta tgcgggcgag gccggcgcca tgacgtcatg tagctgcgac 9180  
 tatccctgca gcgcgcctct cccgtcacgt cccaaccatg gagctgtgga cgtgcgtccc 9240  
 ctgggtgatg tggcctgcgt ggtgccaggc cggggcctgg tgtccgataa agatcctaga 9300

accacaggaa accaggactg aaaggtgcta gagaatggcc atatgtcgct gtccatgaaa 9360  
 tctcaaggac ttctgggtgg agggcacagg agcctgaact tacgggtttg cccagtgcca 9420  
 ctgtcctccc aagtgagtct cccagatacg aggcactgtg ccagcatcag cttcatctgt 9480  
 accacatctt gtaacaggga ctaccagga ccctgatgaa caccatgggtg tgtgcaggaa 9540  
 gaggggggtga aggcattggac tcctgtgtgg tcagagccca gagggggcca tgacgggtgg 9600  
 ggaggaggct gtggactggc tcgagaagtg ggatgtggtt gtgtttgatt tcctttggcc 9660  
 agataaagtg ctggatatag cattgaaaac ggagtatgaa gaccagttag aatggagggt 9720  
 caggttggag ttgagttaca gatggggtaa aattctgctt cggatgagtt tggggattgg 9780  
 caatctaaag gtggtttggg atggcatggc tttgggatgg aaatagggtt gtttttatgt 9840  
 tggctgggaa ggggtgtggg attgaattgg ggatgaagta ggtttagttt tggagataga 9900  
 atacatggag ctggctattg catgcgagga tgtgcattag tttggtttga tctttaaata 9960  
 aaggaggcta ttagggttgt cttgaattag attaagttgt gttgggttga tgggttgggc 10020  
 ttgtgggtga tgtggttga ttgggctgtg ttaaattggt ttgggtcagg ttttggttga 10080  
 ggttatcatg gggatgagga tatgcttggg acatggattc aggtggttct cattcaagct 10140  
 gaggcaaatt tcctttcaga cggtcattcc agggaacgag tggttgtgtg ggggaaatca 10200  
 ggccactggc tgtgaatatc cctctatcct ggtcttgaat tgtgattatc tatgtccatt 10260  
 ctgtctcctt cactgtactt ggaattgatc tggtcattca gctggaaatg ggggaagatt 10320  
 ttgtcaaatt cttgagacac agctgggtct ggatcagcgt aagccttcct tctggtttta 10380  
 ttgaacagat gaaatcacat tttttttttc aaaatcacag aaatcttata gagttaacag 10440  
 tggactctta taataagagt taacaccagg actcttattc ttgattcttt tctgagacac 10500  
 caaaatgaga tttctcaatg ccaccctaatt tctttttttt tttttttttt tttttgagac 10560  
 acagtctggg tcttttgctc tgtcactcag gctggagcgc agtgggtgtga tcatagctca 10620  
 ctgaaccctt gacctcctgg acttaaggga tcctcctgct tcagcctcct gagtagatgg 10680  
 ggctacaggt gcttgccacc acacctggct aattaaattt tttttttttt tttgtagaga 10740  
 aagggtctca ctttgttgcc ctggctgatc ttgaacttct gacttcaagt gattcttcag 10800  
 ccttggaact ccaaagcact gggattgctg gcatgagcca ctcaccgtgc ctggcttgca 10860  
 gcttaatctt ggagtgtata aacctggctc ctgatagcta gacatttcag tgagaaggag 10920  
 gcattggatt ttgcatgagg acaattctga cctaggaggg caggtcaaca ggaatccccg 10980  
 ctgtacctgt acgttgata ggcattggaga atgaggagtg aggaggccgt accggaaccc 11040

catattgttt agtggacatt ggattttgaa ataatagga acttggctctg ggagagtcac 11100  
 atttctggat tggacaatat gtggtatcac aaggttttat gatgagggag aaatgtatgt 11160  
 ggggaaccat tttctgagtg tggaagtgca agaatacagag agtagctgaa tgccaacgct 11220  
 tctatttcag gaacatggta agttggaggt ccagctctcg ggctcagacg ggtatagggg 11280  
 ccaggaagtc tcacaatccg atcattctga tatttcaggg catattaggt ttgggggtgca 11340  
 aaggaagtac ttgggactta ggcacatgag actttgtatt gaaaatcaat gattggggct 11400  
 ggccgtgggtg ctacgcctg taatctcatc actttgggag accgaagtgg gaggatggct 11460  
 tgatctcaag agttggacac cagcctaggt aacatggcca gaccctctct ctacaaaaaa 11520  
 attaaaaatt agctggatgt ggtgggtgcat gcttgtggtc tcagctatcc tggaggctga 11580  
 gacaggagaa tcggttgagt ctgggagttc aaggctacag ggagctgca tcacgccgct 11640  
 gcactccagc ctgggaaaca gagtgagact gtctcagaat ttttttaaaa aagaatcagt 11700  
 gatcatcca accctgttg ctgttcatcc tgagcctgcc ttctctggct ttgttccta 11760  
 gatcacatct ccatgatcca taggcctgc ccaatctgac ctacaccgt gggaatgcct 11820  
 ccagactgat ctagtatgtg tggaacagca agtgctggct ctccctcccc ttccacagct 11880  
 ctgggtgtgg gaggggggtg tccagcctcc agcagcatgg ggagggcctt ggtcagcatc 11940  
 taggtgcaa cagggcaagg gcggggctct ggagaatgaa ggctttatag ggctcctcag 12000  
 ggaggcccc cagcccaaaa ctgcaccacc tggccgtgga caccggt 12047

On page 188, please amend the paragraph containing line 37, as follows:

HRE-TRE SEQ ID NO:12

ccccgagg cagtgcac gaggtcagg gcgtgcgt gattgcagcagagaccccg gggtgcag gccgga

Beginning on page 188 and ending on page 193, please amend the paragraph containing line 42, as follows:

PSA-TRE SEQ ID NO:13

aagcttctag ttttcttttc ccggtgacat cgtggaaagc actagcatct ctaagcaatg 60  
 atctgtgaca atattcacag tgtaatgcca tccaggggaac tcaactgagc cttgatgtcc 120  
 agagattttt gtgttttttt ctgagactga gtctcgctct gtgccaggct ggagtgcagt 180

ggtgcaacct tggtcactg caagctccgc ctctggggtt cagccattc tctgcctca 240  
 gcctcctgag tagctgggac tacaggcacc cgccaccacg cctggctaata ttttttgtat 300  
 ttttagtaga gatgggggtt cactgtgtta gccaggatgg tctcagtctc ctgacctcgt 360  
 gatctgcca ccttggcctc ccaagtgtt gggatgacag gcgtgagcca ccgcgcctgg 420  
 ccgatatcca gagatTTTTT ggggggctcc atcacacaga catgttgact gtcttcatgg 480  
 ttgactttta gtatccagcc cctctagaaa tctagctgat atagtgtggc tcaaacctt 540  
 cagcacaat cacaccgtta gactatctgg tgtggcccaa accttcaggt gaacaaaggg 600  
 actctaactt ggcaggatac tccaaagcat tagagatgac ctcttgcaaa gaaaaagaaa 660  
 tggaaaagaa aaagaaagaa aggaaaaaaa aaaaaaaaaa gagatgacct ctcaggctct 720  
 gaggggaaac gcctgaggtc tttgagcaag gtcagtcctc tgttgacag tctccctcac 780  
 agggtcattg tgacgatcaa atgtggtcac gtgtatgagg caccagcaca tgctggctc 840  
 tggggagtgc cgtgtaagt tatgcttgca ctgctgaatg gctgggatgt gtcagggatt 900  
 atcttcagca cttacagatg ctcatctcat cctcacagca tctatggg atgggtatta 960  
 ctggcctcat ttgatggaga aagtggctgt ggctcagaaa ggggggacca ctagaccagg 1020  
 gacactctgg atgtgggga ctccagagac catgaccact caccaactgc agagaaatta 1080  
 attgtggcct gatgtccctg tcttgagag ggtggagggtg gaccttact aacctctac 1140  
 cttgaccctc tcttttaggg ctctttctga cctccaccat ggtactagga cccattgta 1200  
 ttctgtacct tcttgactct atgaccccca ccgcccactg catccagctg ggtcccctcc 1260  
 tatctctatt cccagctggc cagtgcagtc tcagtgccca cctgtttgtc agtaactctg 1320  
 aaggggctga ctttttactg acttgcaaac aaataagcta actttccaga gttttgtgaa 1380  
 tgctggcaga gtccatgaga ctctgagtc agaggcaaag gcttttactg ctcacagctt 1440  
 agcagacagc atgaggttca tgttcacatt agtacacctt gccccccca aatcttgtag 1500  
 ggtgaccaga gcagtctagg tggatgctgt gcagaagggg tttgtgccac tggtgagaaa 1560  
 cctgagatta ggaatcctca atcttatact gggacaactt gcaaactgc tcagcctttg 1620  
 tctctgatga agatattatc ttcagatctt tggattgaaa acagacctac tctggaggaa 1680  
 catattgtat cgattgtcct tgacagtaaa caaatctgtt gtaagagaca ttatctttat 1740  
 tatctaggac agtaagcaag cctggatctg agagagatat catcttgcaa ggatgcctgc 1800  
 tttacaaaca tcttgaaac aacaatccag aaaaaaaaag gtgttactgt ctttgctcag 1860



aagacacaca gatacgtgac agaaccatgg agaattgcct cccaacgctg ttcagccaga 1920  
gccttccacc ctttctgcag gacagtctca acgttccacc attaaatact tcttctatca 1980  
catcccgctt ctttatgcct aaccaagggt ctaggtcccg atcgactgtg tctggcagca 2040  
ctccactgcc aaaccagaa taaggcagcg ctcaggatcc cgaaggggca tggctgggga 2100  
tcagaacttc tgggtttgag tgaggagtgg gtccaccctc ttgaatttca aaggaggaag 2160  
aggctggatg tgaaggtact gggggaggga aagtgtcagt tccgaactct taggtcaatg 2220  
agggaggaga ctggtaagggt ccagctccc gaggtactga tgtgggaatg gcctaagaat 2280  
ctcatatcct caggaagaag gtgctggaat cctgaggggt agagttctgg gtatatgtgt 2340  
ggcttaaggc tctttggccc ctgaaggcag aggttggaac cattaggtcc agggtttggg 2400  
gtgatagtaa tgggatctct tgattcctca agagtctgag gatcgagggt tgccattct 2460  
tccatcttgc cacctaacc ttactccact tgagggtatc accagccctt ctagctccat 2520  
gaaggtcccc tgggcaagca caatctgagc atgaaagatg cccagaggc cttgggtgtc 2580  
atccactcat catccagcat cacactctga ggggtgtggc agcaccatga cgtcatgttg 2640  
ctgtgactat cctgcagcg tgctctcca gccacctgcc aaccgtagag ctgcccaccc 2700  
tcctctggtg ggagtggcct gcatggtgcc aggtgaggc ctagtgtcag acaggagacc 2760  
tggaatcata gggatccagg actcaaaagt gctagagaat ggccatatgt caccatccat 2820  
gaaatctcaa gggcttctgg gtggagggca cagggacctg aacttatggt ttcccaagtc 2880  
tattgctctc ccaagtgagt ctcccagata cgaggcactg tgccagcatc agccttatct 2940  
ccaccacatc ttgtaaaagg actaccagg gccctgatga acaccatggt gtgtacagga 3000  
gtagggggtg gaggcacgga ctctgtgag gtcacagcca agggagcatc atcatgggtg 3060  
gggaggaggc aatggacagg cttgagaacg gggatgtggt tgtatttggt tttctttggt 3120  
tagataaagt gctgggtata ggattgagag tggagtatga agaccagtta ggatggagga 3180  
tcagattgga gttgggttag ataaagtgct gggatatagga ttgagagtgg agtatgaaga 3240  
ccagttagga tggaggatca gattggagtt gggttagaga tggggtaaaa ttgtgctccg 3300  
gatgagtttg ggattgacac tgtggagggtg gtttgggatg gcatggcttt gggatggaaa 3360  
tagatttggt ttgatgttg ctcagacatc cttggggatt gaactgggga tgaagctggg 3420  
tttgattttg gaggtagaag acgtggaagt agctgtcaga tttgacagtg gccatgagtt 3480  
ttgtttgatg gggaatcaaa caatggggga agacataagg gttggcttgt taggttaagt 3540  
tgcgttgggt tgatggggtc ggggctgtgt ataatgcagt tggattgggt tgtattaaat 3600

tggggtgggt caggtttttg ttgaggatga gttgaggata tgcttgggga caccggatcc 3660  
 atgaggttct cactggagtg gagacaaact tcctttccag gatgaatcca gggaagcctt 3720  
 aattcacgtg taggggaggt caggccactg gctaagtata tccttccact ccagctctaa 3780  
 gatggtctta aattgtgatt atctatatcc acttctgtct ccctcactgt gcttggagtt 3840  
 tacctgatca ctcaactaga aacaggggaa gattttatca aattcttttt tttttttttt 3900  
 tttttttgag acagagtctc actctgttgc ccaggctgga gtgcagtggc gcagtctcgg 3960  
 ctactgcaa cctctgcctc ccagggttcaa gtgattctcc tgccctcagcc tcctgagttg 4020  
 ctgggattac aggcattgcag caccatgccc agctaatttt tgtattttta gtagagatgg 4080  
 gggttcacca atgtttgcca ggctggcctc gaactcctga cctggtgatc cacctgcctc 4140  
 agcctcccaa agtgctggga ttacaggcgt cagccaccgc gccagccac ttttgtcaaa 4200  
 ttcttgagac acagctcggg ctggatcaag tgagctactc tggttttatt gaacagctga 4260  
 aataaccaac tttttgaaa ttgatgaaat cttacggagt taacagtgga ggtaccaggg 4320  
 ctcttaagag ttcccgattc tcttctgaga ctacaaattg tgattttgca tgccacctta 4380  
 atcttttttt tttttttttt aaatcgaggt ttcagtctca ttctatttcc caggctggag 4440  
 ttcaatagcg tgatcacagc tcaactgtagc cttgaactcc tggccttaag agattctcct 4500  
 gcttcggtct cccaatagct aagactacag tagtccacca ccatatccag ataattttta 4560  
 aatttttttg ggggcccggc acagtggctc acgcctgtaa tcccaacacc atgggaggct 4620  
 gagatgggtg gatcacgagg tcaggagttt gagaccagcc tgaccaacat ggtgaaactc 4680  
 tgtctctact aaaaaaaaaa aaaatagaaa aattagccgg gcgtgggtggc acacggcacc 4740  
 tgtaatccca gctactgagg aggctgaggc aggagaatca cttgaacca gaaggcagag 4800  
 gttgcaatga gccgagattg cgccactgca ctccagcctg ggtgacagag tgagactctg 4860  
 tctcaaaaaa aaaaaatttt tttttttttt ttgtagagat ggatcttgct ttgtttctct 4920  
 ggttggcctt gaactcctgg cttcaagtga tcctcctacc ttggcctcgg aaagtgttgg 4980  
 gattacaggc gtgagccacc atgactgacc tgtcgttaat cttgaggtac ataaacctgg 5040  
 ctctaaagg cttaaaggcta aatatttgtt ggagaagggg cattggattt tgcattgagga 5100  
 tgattctgac ctgggagggc aggtcagcag gcattctctgt tgcacagata gattgtacag 5160  
 gtctggagaa caaggagtgg ggggttattg gaattccaca ttgtttgctg cacgttggat 5220  
 tttgaaatgc tagggaactt tgggagactc atatttctgg gctagaggat ctgtggacca 5280

caagatcttt ttatgatgac agtagcaatg tatctgtgga gctggattct gggttgggag 5340  
tgcaaggaaa agaattgtact aaatgccaaag acatctatct caggagcatg aggaataaaa 5400  
gttctagttt ctggtctcag agtgggtgcat ggatcaggga gtctcacaat ctctgagtg 5460  
ctggtgtctt agggcacact gggctctgga gtgcaaagga tctaggcacg tgaggctttg 5520  
B<sup>21</sup> tatgaagaat cggggatcgt acccaccctt tgtttctgtt tcatcctggg catgtctcct 5580  
ctgcctttgt cccttagatg aagtctccat gagctacaag ggcttggtgc atccagggtg 5640  
atctagtaat tgcagaacag caagtgctag ctctccctcc ccttcacag ctctgggtgt 5700  
gggagggggt tgtccagcct ccagcagcat ggggagggcc ttggtcagcc tctgggtgcc 5760  
agcagggcag gggcggagtc ctggggaatg aaggttttat agggctcctg ggggaggtc 5820  
cccagcccca agctt 5835

---

On page 194, please amend the paragraph, as follows:

CEA TRE SEQ ID NO: 14

B<sup>22</sup>

aaagcttttta gtgctttaga cagtgaagctg gtctgtctaa cccaagtac ctgggtcca	60
tactcagccc cagaagtga ggggtgaagct ggggtggagcc aaaccaggca agcctaccct	120
cagggctccc agtggcctga gaaccattgg acccaggacc cattacttct agggtaagga	180
aggtacaaac accagatcca accatggtct ggggggacag ctgtcaaatz cctazaaata	240
tacctgggag aggagcaggc aaactatcac tgccccagggt tctctgaaca gaazcagagg	300
ggcaacccaa agtccaaatc caggtgagca ggtgcaccaa atgcccagag atatgacgag	360
gcaagaagtg aaggaaccac ccctgcacaa aatgttttgc atgggaagga gaaggggggt	420
gtcatgttc ccaatccagg agaatgcatt tgggatctgc cttcttctca ctccttggtt	480
agcaagacta agcaaccagg actctggatt tgggaaaga cgtttatttg tggaggacag	540
tgatgacaat ccacagagg cctaggtgaa gagggcagga aggtctgaga cactggggac	600
tgagtgaana ccacacccat gatctgcacc acccatggat gtccttcat tgctacctt	660
tctgttgata tcagatggcc ccattttctg taccttcaca gaaggacaca ggctagggtc	720
tgtgcatggc cttcatcccc ggggccatgt gaggacagca ggtgggaaag atcatgggtc	780
ctcctgggtc ctgcagggcc agaacattca tcaccatac tgacctcta gatgggaatg	840
gcttccctgg ggtggggcca acggggcctg ggcaggggag aaaggacgtc aggggacagg	900
gaggaaggggt catcgagacc cagcctggaa ggttcttgc tctgaccatc caggatttac	960
ttcctgcat ctacctttgg tcattttecc tcagcaatga ccagctctgc ttcctgatct	1020
cagcctccca ccctggacac agcaccacag tccctggccc ggctgcatcc acccaatacc	1080
ctgataaccc aggaccatt acttctaggg taaggagggt ccaggagaca gaagctgagg	1140
aaaggtctga agaagtcaca tctgtcctgg ccagagggga aaaacatca gatgtgaac	1200
caggagaatg ttgaccagg aaagggaccg aggacccaag aaaggagtca gaccaccagg	1260
gtttgcctga gaggaaggat caaggccccg agggaaagca gggctggctg catgtgcagg	1320
acactgggtg ggcataatgt tcttagatc tcctgaatt cagtgtccct gccatggcca	1380
gactctctac tcaggcctgg acatgctgaa ataggacaat ggcttgtcc tcttcccca	1440
ccatttgga agagacataa aggacattcc aggacatgcc ttcctgggag gtccaggttc	1500
tctgtctcac acctcaggga ctgtagttac tgcatcagcc atggtaggtg ctgatctcac	1560
ccagcctgtc caggcccttc cactctccac ttgtgacca tgtccaggac caccctcag	1620
atcctgagcc tgaataatcc cccttgctgg gtgggtggat tcagtaaaaa gtgagctcct	1680

On page 203, please amend the paragraph containing line 5, as follows:

**Mucin-TRE SEQ ID NO:15**

B<sup>23</sup>

cgagcggccc ctcagcttcg gcgcccagcc ccgcaaggct cccggtgacc actagagggc 60  
gggaggagct cctggccagt ggtggagagt ggcaaggaag gaccctaggg ttcacgag 120  
cccaggttta ctcccttaag tggaaatttc ttccccact cctccttggc tttctccaag 180  
gagggaaacc aggctgctgg aaagtccggc tggggcgggg actgtgggtt caggggagaa 240  
cggggtgtgg aacgggacag ggagcgggta gaagggtggg gctattccgg gaagtgggtg 300  
ggggagggag cccaaaacta gcacctagtc cactcattat ccagccctct tatttctcgg 360  
ccgctctgct tcagtggacc cggggagggc ggggaagtgg agtgggagac ctaggggtgg 420  
gcttcccgac cttgctgtac aggacctcga cctagctggc tttgttcccc atccccacgt 480  
tagttgttgc cctgaggcta aaactagagc ccagggggccc caagttccag actgcccctc 540  
ccccctcccc cggagccagg gagtgggttg tgaaaggggg aggccagctg gagaacaaac 600  
gggtagtcag ggggttgagc gattagagcc cttgtaccct acccaggaat ggttggggag 660  
gaggaggaag aggtaggagg taggggaggg ggcgggggtt tgtcacctgt cacctgctcg 720  
ctgtgcctag ggcgggcggg cggggagtgg ggggaccggt ataaagcggg aggcgcctgt 780  
gcccgctcca cctctcaagc agccagcgcc tgctgaatc tgttctgccc cctccccacc 840  
catttcacca ccaccatg 858

Beginning on page 203 and ending on page 208, please amend the paragraph containing line 55  
(page 203), as follows:

**αFP-TRE SEQ ID NO:16**

B<sup>24</sup>

gaattcttag aaatatgggg gtaggggtgg tgggtgtaat tctgttttca ccccataggt 60  
gagataagca ttgggttaaa tgtgctttca cacacacatc acatttcata agaattaagg 120  
aacagactat gggctggagg actttgagga tgtctgtctc ataacacttg ggttgtatct 180  
gttctatggg gcttgtttta agcttggcaa cttgcaacag ggttactga ctttctcccc 240  
aagcccaagg tactgtcctc ttttcatatc tgttttgggg cctctggggc ttgaatatct 300  
gagaaaatat aaacatttca ataatgttct gtggtgagat gagtatgaga gatgtgtcat 360

tcatttgtat caatgaatga atgaggacaa ttagtgtata aatccttagt acaacaatct 420  
 gagggtaggg gtggtactat tcaatttcta ttataaaga tacttatttc tatttattta 480  
 tgcttgtgac aaatgttttg ttcgggacca caggaatcac aaagatgagt ctttgaattt 540  
 aagaagttaa tgggtccagga ataattacat agcttacaaa tgactatgat ataccatcaa 600  
 acaagagggt ccatgagaaa ataatctgaa aggtttaata agttgtcaaa ggtgagaggg 660  
 ctcttctcta gctagagact aatcagaaat acattcaggg ataattattt gaatagacct 720  
 taagggttgg gtacattttg ttcaagcatt gatggagaag gagagtgaat atttgaaaac 780  
 attttcaact aaccaaccac ccaatccaac aaacaaaaaa tgaaaagaat ctcaaaaaca 840  
 gtgagataag agaaggaatt ttctcacaac ccacacgtat agtcaactg ctctgaagaa 900  
 gtatatatct aatattttaac actaacatca tgctaataat gataataatt actgtcattt 960  
 tttaatgtct ataagtacca ggcattttaga agatattatt ccatttatat atcaaaaataa 1020  
 acttgagggg atagatcatt ttcattgat atgagaaaaa ttaaaaacag attgaattat 1080  
 ttgcctgtca tacagctaatt aattgaccat aagacaatta gatttaaatt agttttgaat 1140  
 ctttctaata ccaaagttca gtttactgtt ccatgttgct tctgagtggc ttcacagact 1200  
 tatgaaaaag taaacggaat cagaattaca tcaatgcaaa agcattgctg tgaactctgt 1260  
 acttaggact aaactttgag caataacaca catagattga ggattgtttg ctgttagcat 1320  
 acaaactctg gttcaaagct cctctttatt gcttgtcttg gaaaatttgc tgttcttcat 1380  
 ggtttctctt ttcactgcta tctatttttc tcaaccactc acatggctac aataactgtc 1440  
 tgcaagctta tgattcccaa atatctatct ctagcctcaa tcttgttcca gaagataaaa 1500  
 agtagtatcc aaatgcacat caacgtctcc acttgagggg cttaaagacg tttcaacata 1560  
 caaaccgggg agttttgcct ggaatgtttc ctaaaatgtg tctgttagca cataggggtc 1620  
 tcttgttcct taaaatctaa ttacttttag ccagtgctc atcccaccta tggggagatg 1680  
 agagtgaaaa gggagcctga ttaataatta cactaagtca ataggcatag agccaggact 1740  
 gtttgggtaa actggtcact ttatcttaaa ctaaatatat ccaaaactga acatgtactt 1800  
 agttactaag tctttgactt tatctcattc ataccactca gctttatcca ggccacttat 1860  
 ttgacagtat tattgcgaaa acttcctaac tgggtctcct atcatagtct tatccccctt 1920  
 tgaaacaaaa gagacagttt caaaatacaa atatgatttt tattagctcc cttttgttgt 1980  
 ctataatagt ccagaagga gttataaact ccatttaaaa agtctttgag atgtggccct 2040  
 tgccaacttt gccaggaatt cccaatatct agtattttct actattaaac tttgtgcctc 2100

ttcaaaactg cattttctct cattccctaa gtgtgcattg ttttccctta ccggttggtt 2160  
 tttccaccac cttttacatt ttcttgaac actataccct ccctcttcat ttggcccacc 2220  
 tctaattttc tttcagatct ccatgaagat gttacttctt ccaggaagcc ttatctgacc 2280  
 cctccaaaga tgtcatgagt tcctcttttc atttacttaa tcacagcatc catcacacca 2340  
 tgttgtgatt actgatacta ttgtctgttt ctctgattag gcagtaagct caacaagagc 2400  
 tacatggtgc ctgtctcttg ttgtctgatta ttcccatcca aaaacagtgc ctggaatgca 2460  
 gacttaacat tttattgaat gaataaataa aaccccatct atcgagtgc actttgtgca 2520  
 agacccggtt ctgaggcatt tatatttatt gatttattta attctcattt aacctgaag 2580  
 gaggtactat cactatcctt attttatagt tgataaagat aaagcccaga gaaatgaatt 2640  
 aactcaccca aagtcattga gctaagtgc agggcaaaaa ttcaaaccag ttccccaact 2700  
 ttacgtgatt aatactgtgc tatactgcct ctctgatcat atggcatgga atgcagacat 2760  
 ctgctccgta aggcagaata tggaaggaga ttggaggatg acacaaaacc agcataatat 2820  
 cagaggaaaa gtccaaacag gacctgaact gatagaaaag ttgttactcc tgggtgtagtc 2880  
 gcatcgacat cttgatgaac tgggtggctga cacaacatac attggcttga tgtgtacata 2940  
 ttattttagt ttgtgtgtgt atttttatat atatatttgt aatattgaaa tagtcataat 3000  
 ttactaaagg cctaccattt gccaggcatt ttacatttg tcccctctaa tcttttgatg 3060  
 agatgatcag attggattac ttggccttga agatgatata tctacatcta tatctatata 3120  
 tataatctata tctatatcta tatctatata tataatctata tatgtatata agaaaagctg 3180  
 aaatatgttt tgtaaagtta taaagatttc agactttata gaatctggga tttgccaaat 3240  
 gtaaccctt tctctacatt aaacccatgt tggaacaaat acatttatta ttcattcatc 3300  
 aaatgttgct gagtcttggc tatgaaccag aactgtgaa agcctttggg atattttgcc 3360  
 catgcttggg caagcttata tagtttgctt cataaaactc tatttcagtt cttcataact 3420  
 aatacttcat gactattgct tttcaggat tccttcataa caaatacttt ggctttcata 3480  
 tatttgagta aagtccttct tgaggaagag tagaagaact gcactttgta aatactatcc 3540  
 tggaatccaa acggatagac aaggatggtg ctacctctt ctggagagta cgtgagcaag 3600  
 gcctgttttg ttaacatgtt ccttaggaga caaaacttag gagagacacg catagcagaa 3660  
 aatggacaaa aactaacaaa tgaatgggaa ttgtacttga ttagcattga agaccttggt 3720  
 tatactatga taaatgtttg tatttgctgg aagtgtact gacggtaaac cttttttgtt 3780

taaatgtgtg ccctagtagc ttgcagtatg atctatTTTT taagtactgt acttagctta 3840  
 tttaaaaatt ttatgtttta aattgcatag tgctctttca ttgaagaagt tttgagagag 3900  
 agatagaatt aaattcactt atcttaccat ctagagaaac ccaatgttaa aactttgttg 3960  
 tccattatTT ctgtctTTta ttcaacattt ttttttagagg gtgggaggaa tacagaggag 4020  
 gtacaatgat acacaaatga gagcactctc catgtattgt tttgtcctgt ttttcagtta 4080  
 acaatatatt atgagcatat ttccatttca ttaaataattc ttccacaaag ttattttgat 4140  
 ggctgtatat caccctactt tatgaatgta ccatattaat ttatttcctg gtgtgggtta 4200  
 tttgattTTta taatcttacc tttagaataa tgaaacacct gtgaagcttt agaaaatact 4260  
 ggtgcctggg tctcaactcc acagattctg atttaactgg tctgggttac agactaggca 4320  
 ttgggaattc aaaaagttcc ccagtgatt ctaatgtgta gccaagatcg ggaacccttg 4380  
 tagacagggg tgataggagg tgagccactc ttagcatcca tcatttagta ttaacatcat 4440  
 catcttgagt tgctaagtga atgatgcacc tgaccactt tataaagaca catgtgcaaa 4500  
 taaaattatt ataggacttg gtttattagg gcttgtgctc taagttttct atgttaagcc 4560  
 atacatcgca tactaaatac tttaaaatgt accttattga catacatatt aagtgaaaag 4620  
 tgtttctgag ctaaacaatg acagcataat tatcaagcaa tgataatttg aaatgaattt 4680  
 attattctgc aacttaggga caagtcactc ctctgaattt tttgtacttt gagagtattt 4740  
 gttatatttg caagatgaag agtctgaatt ggtcagacaa tgtcttgtgt gcctggcata 4800  
 tgataggcat ttaatagttt taaagaatta atgtatttag atgaattgca taccaaactc 4860  
 gctgtctttt ctttatggct tcattaactt aatttgagag aaattaatta ttctgcaact 4920  
 tagggacaag tcatgtcttt gaatattctg tagtttgagg agaataattg ttatatttgc 4980  
 aaaataaaat aagtttgcaa gttttttttt tctgccccaa agagctctgt gtccttgaac 5040  
 ataaaataca aataaccgct atgctgttaa ttattggcaa atgtccatt ttcaacctaa 5100  
 ggaaatacca taaagtaaca gatataccea caaaaggtta ctagttaaca ggcattgcct 5160  
 gaaaagagta taaaagaatt tcagcatgat tttccatatt gtgcttcac cactgccaat 5220  
 aaca 5224